

In Re Application

WHITE, et al.

Serial No.: 10/518,188

Filed: December 16, 2004

Confirmation No.: 5578

Group Art Unit: TBA

Examiner: TBA

Docket No.: 62020-1800

For: ADSORBENTS, METHODS OF PREPARATION, AND METHODS OF USE THEREOF

PATENT

**INFORMATION DISCLOSURE STATEMENT**

Mail Stop Amendment  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450

Sir:

This information disclosure statement is filed in accordance with 37 C.F.R. §§ 1.56, 1.97, and 1.98, and specifically:

under 37 CFR 1.97(b), or  
 (within Three months of filing national application; or date of entry of international application; or before  
 mailing date of first office action on the merits; whichever occurs last)

under 37 CFR 1.97(c) together with either a:  
 Statement Under 37 C.F.R. 1.97(e), or  
 a \$180.00 fee under 37 CFR 1.17(p), or  
 (After the CFR 1.97(b) time period, but before the final office action or notice of allowance, whichever  
 occurs first)

under 37 CFR 1.97(d) together with a:  
 Statement under 37 CFR 1.97(e), and  
 a \$180.00 petition fee set forth in 37 CFR 1.17(p).  
 (Filed after final office action or notice of allowance, whichever occurs first, but before payment of the  
 issue fee)

Enclosed is a check in the amount of \$

Enclosed is Credit Card Payment Form (PTO-2038) in the amount of \$

Please charge \$ to deposit account . At any time during the pendency of this application, please charge any fees required to Deposit Account 20-0778 pursuant to 37 CFR 1.25. The Commissioner is hereby requested to credit any overpayment to Deposit Account No. 20-0778.

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Applicant(s) submit herewith *Form PTO 1449A - Information Disclosure Statement by Applicant* together with copies (where required) of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may or may not be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56. As required by 37 C.F.R. §1.98(a), a legible copy of each document is provided.

A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individual(s) designated in 37 CFR 1.56(c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on the form PTO 1449 and is enclosed herewith.

The following rights are requested by the Applicant(s): the right to establish the patentability of the claimed invention over any of the listed documents should they be applied as reference, and/or the right to prove that some of these documents may not be prior art, and/or the right to prove that some of these documents may not be enabling for the teachings they purport to offer.

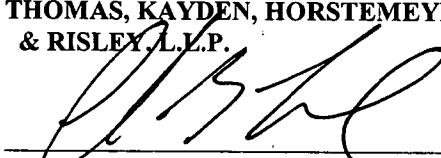
This statement should not be construed as a representation that an exhaustive search has been made, or that information more material to the examination of the present application does not exist. Any statements or identifications regarding the relevance of any portion(s) of cited references should not be construed as a representation that the most relevant portion(s) have been identified, and the absence of such statements or identifications should not be construed as representations that there are no relevant portion(s). The Examiner is specifically requested not to rely solely on the materials submitted herewith. The Examiner is requested to conduct an independent and thorough review of the documents, and to form independent opinions as to their significance.

It is requested that the information disclosed herein be made of record in this application and that the Examiner initial and return a copy of the enclosed PTO-1449 to indicate the documents have been considered.

Respectfully Submitted,

THOMAS, KAYDEN, HORSTEMEYER  
& RISLEY, L.L.P.

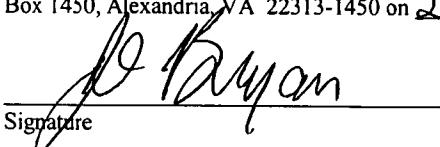
By:

  
Christopher B. Linder, Reg. No. 47,751

100 Galleria Parkway, Suite 1750  
Atlanta, Georgia 30339-5948  
770-933-9500

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Form PTO-1449

Attorney Docket No.  
62020-1800Serial No.  
10/518,188

## O P E N I N F O R M A T I O N D I S C L O S U R E C I T A T I O N

(Use several sheets if necessary)

Applicant  
WHITE, et al.Filing Date  
December 16, 2004Group  
TBA

## U.S. PATENT DOCUMENTS

| Examiner Initials | Item | Document Number | Date     | Name             | Class | Subclass | Filing Date If Appropriate |
|-------------------|------|-----------------|----------|------------------|-------|----------|----------------------------|
|                   | A    | 1,831,731       | 11/10/31 | Jan Al           |       |          | 2/20/30                    |
|                   | B    | 3,141,729       | 7/21/64  | Clarke, et al.   | 23    | 4        | 7/11/60                    |
|                   | C    | 3,511,595       | 5/12/70  | Warren Fuchs     | 53    | 4        | 5/18/67                    |
|                   | D    | 3,865,924       | 2/11/75  | Gidaspow, et al. | 423   | 230      | 3/3/72                     |
|                   | E    | 4,201,751       | 5/6/80   | Holter, et al.   | 423   | 210      | 10/21/77                   |
|                   | F    | 4,433,981       | 2/28/84  | Slugh, et al.    | 55    | 59       | 6/26/81                    |
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|                   | J    | 5,214,019       | 5/25/93  | Nalette, et al.  | 502   | 400      | 2/24/92                    |
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## FOREIGN PATENT DOCUMENTS

|  | Document Number | Date | Country | Class | Subclass | Translation |
|--|-----------------|------|---------|-------|----------|-------------|
|  |                 |      |         |       |          | Yes No      |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

|  |   |  |
|--|---|--|
|  | L | Publication No.: 2003/0047488A1, Published 3/13/03; Takehira, et al.; Catalyst For Reacting Hydrocarbon With Steam and Process for Producing Hydrogen from Hydrocarbon |
|  | M | J.J. Berzelius; Complex or Double Salts with Magnesium Carbonate; MAGNESIUM, V. 4, 1922-1937, <sup>no date given</sup>   |
|  | N | Iretskii, et al.; Bimontly Report for Improved CO <sub>2</sub> Adsorbent; December, 2000   |
|  | O | Bellotto, et al.; A Reexamination of Hydrotalcite Crystal Chemistry; J. Phys. Chem.; 1996; 100, 8527-8534  |
|  | P | Sels, et al.; Hydrotalcite-Like Anionic Clays in Catalytic Organic Reactions; Catalysis Reviews, 43(4); 443-488; 2001  |
|  | Q | Bellotto, et al.; Hydrotalcite Decomposition Mechanism; A Clue to the Structure and Reactivity of Spinel-like Mixed Oxides; J. Phys. Chem.; 1996; 100; 8535-8542       |

\* EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

EXAMINER'S SIGNATURE:

/Frank Lawrence Jr/

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Form PTO-1449

Attorney ~~Market~~ No.  
62020-1800Serial No.  
10/518,188**INFORMATION DISCLOSURE CITATION***(Use several sheets if necessary)*Applicant  
**WHITE, et al.**Filing Date  
**December 16, 2004**Group  
**TBA****U.S. PATENT DOCUMENTS**

| Examiner Initials | Item | Document Number | Date     | Name              | Class | Subclass | Filing Date If Appropriate |
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|                   | R    | 5,520,894       | 5/28/96  | Heesink, et al.   | 423   | 230      | 6/30/93                    |
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|                   | T    | 5,681,503       | 10/28/97 | Nalette, et al.   | 252   | 192      | 6/7/95                     |
|                   | U    | 5,980,856       | 11/9/99  | Okada, et al.     | 423   | 600      | 11/24/97                   |
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|  | FF | Gomes, et al.; Pressure Swing Adsorption for Carbon Dioxide Sequestration From Exhaust Gases; Separation and Purification Technology 28 (2002; 161-171                                      |
|  | GG | Hasegawa, et al.; The Separation of CO <sub>2</sub> using Y-type Zeolite Membranes Ion-Exchanged with Alkali Metal Cations; Separation and Purification Technology; 22-23 (2001); 319-325   |
|  | HH | Takamura, et al.; Evaluation of Dual-Bed Pressure Swing Adsorption for CO <sub>2</sub> Recovery From Boiler Exhaust Gas; Separation and Purification Technology 24 (2001); 519-528          |
|  | II | Allada, et al.; Thermochemistry and Aqueous Solubilities of Hydrotalcite-Like Solids; Science; Vol. 296, Issue 5568, 2002; p 721  |
|  | JJ | Sanchez-Camazano, et al.; Hydrotalcites and Organo-Hydrotalcites as Sorbents for Removing Pesticides From Water; Journal of Environmental Science & Health, Vol. B33; Issue 3, 1998; p 509  |
|  | KK | Gambini, et al.; CO <sub>2</sub> Emission Abatement From Fossil Fuel Power Plants by Exhaust Gas Treatment; Journal of Engineering For Gas Turbines & Power, Vol. 125; Issue 1; 2003; p 365 |

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